

AMENDMENTS TO THE CLAIMS

1. (currently amended) A helmet system for the protection of a wearer comprising:

a) a protective head covering, comprising

- i) an outer shell adapted to cover a substantial portion of said wearer's head;
- ii) a transparent face shield connected to said outer shell; and
- iii) a cushioning element inside of said outer shell;

and defining a protective head covering cavity;

b) at least one compressed breathable ~~supply-air~~ supply gas canister fluidically coupled to said protective head covering;

c) at least one safety risk factor sensor;

d) ~~an air-release~~ a gas release element fluidically coupled to said at least one compressed breathable ~~supply-air~~ supply gas canister and responsive to said safety risk factor sensor so as to release breathable supply gas into said protective head covering cavity upon the sensed presence of a safety risk factor; and

e) at least one ~~pressurized-air~~ pressurized gas exfiltration element substantially fixed relative to said protective head covering.

2. (currently amended) A helmet system for the protection of a wearer as in claim 1 wherein said at least one compressed breathable ~~supply-air~~ supply gas canister comprises a cartridge.

3. (currently amended) A helmet system for the protection of a wearer as in claim 1 wherein said at least one compressed breathable ~~supply-air~~ supply gas canister comprises a tank located externally to said outer shell.

4. (currently amended) A helmet system for the protection of a wearer as in claim 1 wherein said compressed breathable ~~supply air~~ supply gas canister is fluidically coupled to a location within said protective head covering ~~by an air~~ by a gas transport element.
5. (original) A helmet system for the protection of a wearer as in claim 1 wherein said safety risk sensor comprises at least one impact sensor.
6. (currently amended) A helmet system for the protection of a wearer as in claim 1 wherein said ~~air-release~~ gas release element comprises at least one manually operable element.
7. (currently amended) A helmet system for the protection of a wearer as in claim 1 wherein said ~~air-release~~ gas release element comprises at least one electrically activatable element.
8. (currently amended) A helmet system for the protection of a wearer as in claim 1 wherein said ~~air-release~~ gas release element comprises a remote wireless signal response element.
9. (currently amended) A helmet system for the protection of a wearer as in claim 1 wherein said ~~air-release~~ gas release element comprises at least one mechanically activatable element.
10. (original) A helmet system for the protection of a wearer as in claim 2 wherein said cartridge is directly attached to said outer shell.
11. (currently amended) A helmet system for the protection of a wearer as in claim 1 wherein said at least one ~~pressurized air~~ pressurized gas exfiltration element comprises a flexible shroud attached along a base rim of said protective head covering.
12. (currently amended) A helmet system for the protection of a wearer as in claim 1 wherein said at least one ~~pressurized air~~ pressurized air exfiltration element comprises a ~~pressurized air~~ pressurized gas exfiltration element located at substantially the border of said face shield with said outer shell.

13. (currently amended) A helmet system for the protection of a wearer as in claim 1 wherein said at least one ~~pressurized air~~ pressurized gas exfiltration element comprises at least one hole in said outer shell.

14. (currently amended) A helmet system for the protection of a wearer as in claim 1 wherein said ~~pressurized air~~ pressurized gas exfiltration element comprises at least one pressure regulator.

15. (original) A helmet system for the protection of a wearer as in claim 2 wherein said helmet system further comprises a cartridge failure safety element.

16. (currently amended) A helmet system for the protection of a wearer as in claim 4 wherein said ~~air transport~~ gas transport element comprises a detachment element.

17. (original) A helmet system for the protection of a wearer as in claim 1 further comprising a remote wireless sensor signal receipt element.

18. (currently amended) A method for protecting a user comprising the steps of:

- a) securing a protective head covering substantially around a user's head;
- b) providing at least one compressed breathable supply air canister fluidically coupled to said protective head covering;
- c) safety risk factor sensing;
- d) determining safety risk factor presence;

e) establishing at least one flow of breathable air from said at least one compressed breathable supply air canister in response to said step of determining safety risk factor sensing presence;

f) providing said at least one flow of breathable air to inside said protective head covering in response to said step of establishing at least one flow of breathable air;

g) increasing an internal head covering air pressure to above an ambient condition value in response to said step of providing said at least one supply of breathable air;
and

h) exfiltrating gas from within said protective head covering through an exfiltration element in response to said step of increasing an internal head covering air pressure.

19. (original) A method for protecting a user as in claim 18 wherein said step of safety risk factor sensing comprises the step of automatically sensing the presence of a safety risk factor.

20. (original) A method for protecting a user as in claim 18 wherein said step of safety risk factor sensing comprises the step human sensing the presence of a safety risk factor.

21. (original) A method for protecting a user as in claim 18 wherein said step of establishing at least one flow of breathable air comprises the step of manually initiating a release of said at least one flow of breathable air by a human wearer of said protective head covering in response to said step of determining safety risk factor presence.

22. (original) A method for protecting a user as in claim 18 wherein said step of establishing at least one flow of breathable air comprises the step of electrically initiating a release of said at least one flow of breathable air in response to said step of determining safety risk factor presence.

23. (original) A method for protecting a user as in claim 18 wherein said step of establishing at least one flow of breathable air comprises the step of establishing a flow of breathable air from a compressed breathable air cartridge.

24. (original) A method for protecting a user as in claim 18 wherein said step of establishing a flow of breathable air from said compressed breathable air canister comprises the step of initiating a release from said flow of breathable air externally of said protective head covering.

25. (original) A method for protecting a user as in claim 18 wherein said step of exfiltrating air from within said protective head covering comprises the step of exfiltrating air through a flexible shroud provided at a rim located at the base of said protective head covering.

26. (original) A method for protecting a user as in claim 18 wherein said step of exfiltrating air from within said protective head covering comprises the step of exfiltrating air through a border defined by a transparent helmet face shield and an outer helmet shell.

27. (original) A method for protecting a user as in claim 18 wherein said step of exfiltrating air from within said protective head covering comprises the step of exfiltrating air through a unitary pressure regulator.

28. (original) A method for protecting a user as in claim 18 further comprising the step of adjusting said exfiltration element.

29. (original) A method for protecting a user as in claim 18 further comprising the step of providing a cartridge failure safety element.

30. (original) A method for protecting a user as in claim 18 wherein said method for protecting a user is implementable in a racing vehicle environment.

31. (original) A method for protecting a user as in claim 18 further comprising the step of replacing an air transport element fluidically connected to said protective head covering.

32. (original) A method for protecting a user as in claim 18 further comprising the step of wirelessly communicating.